Amendments in the specification

1) Please replace the paragraph beginning on line 23 of page 2 of the specification with the following paragraph:

In the photolithographic patterning of the TW, an undercut resist scheme is necessary for the formation of high quality junctions. The best MR sensors are fabricated using an optical lithography, bilayer resist pedestal technique. Figs. ~~1a-1d~~ 1a-1e illustrate the fabrication of contiguous junction hard bias MR sensors using this prior art bilayer resist pedestal technique. As shown in Fig. 1a, a bilayer resist pedestal structure includes an image resist layer **106** on top of an undercut polymer layer **104**. For fabricating a GMR sensor, the bilayer resist structure stands on a GMR layer structure **102**. The bilayer resist structure masks the active sensor region of the GMR layer structure **102** during an ion milling step which defines the sensor trackwidth edges as shown in Fig. 1b. The bilayer resist structure then serves as a liftoff mask for depositing the hard bias layers **108** and leads **110**, which contact the edges of the sensor **102** as shown in Figs. 1c-1d. As shown in Fig. 1d, a quantity of hard bias material **108'** and lead material **110'** is also deposited on the sidewalls and top of resist layer **106**. However, this quantity of material is removed along with the resist layer **106** in a liftoff process described in a later step.

2) Please replace the paragraph beginning on line 2 of page 6 of the specification with the following paragraph:

E-beam exposed PMMA dissolves in a solution of isopropyl alcohol (IPA) and water. PMGI is not affected by this solution, regardless of whether it has been exposed to an electron beam. PMGI dissolves in a basic developer having concentrations of NaOH or KOH that do not affect ~~to~~ the PMMA. Therefore, e-beam exposure and development of the PMMA layer will not affect the PMGI layer, and dissolving the PMGI layer will not affect the edges of the PMMA walls. When the top polymer layer contains DUV resist, a single developer, such as a basic developer of NaOH or KOH, can be used to develop both the e-beam exposed DUV and PMGI.

3) Please replace the paragraph beginning on line 27 of page 8 of the specification with the following paragraph:

Figs. **1a-e** are schematic diagrams illustrating the steps of a process of fabricating MR sensors using a bilayer resist pedestal technique of the prior art;

Figs. **2a-b** are schematic diagrams showing top and side views of a bilayer resist pedestal structure of the prior art;

Figs. **3a-b** are schematic diagram showing top and side views of a bilayer fully undercut resist structure according to a preferred embodiment of the present invention;

Figs. **4a-d** are schematic diagrams illustrating the steps of a process of making the bilayer fully undercut resist structure shown in Figs. 3a-b;

Figs. **5a-e** are schematic diagrams illustrating the steps of a process of fabricating a GMR sensor using the fully undercut resist bridge illustrated in Figs. 4a-d;

Figs. **6a-f** are schematic diagrams illustrating the steps of a process of fabricating a MTJ sensor using the fully undercut resist structure illustrated in Figs. 4a-d;

Fig. **7** is a TEM cross-section of a GMR sensor fabricated using the process described in Figs. 5a-e;

Fig. **8** is a cross-sectional schematic diagram of a MR read head including the MR sensor illustrated in Figs. 5a-e and ~~6a-e~~ 6a-f; and

Fig. **9** is a schematic diagram illustrating a disk drive including the MR read head of Fig. 8.

4) Please replace the paragraph beginning on line 28 of page 9 of the specification with the following paragraph:

High areal densities in magnetic recording require a narrow MR sensor trackwidth. To achieve a trackwidth narrower than 0.2 micron, a fully suspended resist bridge can be used as a combined ion milling/liftoff mask. According to a preferred embodiment of the present invention, a bilayer resist structure includes a top polymer layer deposited on top of a bottom polymer layer with only the top (imaging) polymer layer being

sensitive to e-beam exposure and to the e-beam developer. The top polymer layer contains an e-beam sensitive resist such as polymethyl methacrylate (PMMA). However, the imaging layer could be virtually any deep ultraviolet (DUV) or e-beam resists (e.g., NEB-22, SAL 601, ZEP, HSQ). The bottom polymer layer may contain polymethyl glutarimide (PMGI). The imaging resist is patterned via high energy electron beam exposure. However, other short wavelength particles or radiation could be used. E-beam exposed PMMA dissolves in a solution of isopropyl alcohol (IPA) and water that does not affect the PMGI, regardless of whether the PMGI has been exposed to e-beam energy. Therefore, the top PMMA layer is e-beam exposed and developed without affecting ~~to~~ the bottom PMGI layer. In addition, PMGI dissolves in a basic developer having concentrations of NaOH or KOH that do not affect ~~to~~ the PMMA. Therefore, the bottom PMGI layer is dissolved without affecting the edges of the PMMA layer. When the top polymer layer contains a DUV resist, a single developer can be used to develop the e-beam exposed top polymer layer and the bottom polymer layer. For example, if the top polymer layer contains DUV resist and the bottom polymer layer contains PMGI, a basic developer of NaOH and KOH can develop both the e-beam exposed DUV and PMGI.

5) Please replace the paragraph beginning on line 8 of page 14 of the specification with the following paragraph:

A MR sensor having features in common with the GMR sensor **501** and the MTJ sensor **601** described above in Figs. 5a-5e and ~~6a-6e~~ 6a-6f with trackwidth narrower than 0.2 micron is incorporated

into a MR read head **800** as shown in Fig. 8. The MR read head **800** includes a first shield **802** and second shield **808** sandwiching a MR sensor **801** having features in common with GMR sensor **501** or MTJ sensor **601** described above with respect to Figs. 5a-5e and ~~6a-6e~~ 6a-6f. For GMR (but not tunneling magnetoresistive, TMR) sensors the MR read head **800** further includes a first gap **804** between the first shield **802** and the MR sensor **801**, and a second gap **806** between the second shield **808** and the MR sensor **801**.